|  |
| --- |
| **Lesson Title:** Sea Floor Spreading and Tectonic Plates |
| **Subject area / course / grade level:** Earth Science/7th grade |
| **Introduction:**  Create a model to illustrate geologic processes responsible for changes in the Earth’s Crust |
| **Lesson Length:** 1 hour |
| **Materials:**  2 magic markers, 2 pieces of legal or computer paper |
| **Lesson Overview:**  This activity allows students to build a simplified model showing how sea floors spread to create the land features on Earth. |
| **Tennessee Standards:**  GLE 0707.7.3 Analyze the characteristics of the earth’s layers and the location of the major plates.  GLE 0707.7.4 Explain how earthquakes, mountain building, volcanoes, and sea floor spreading are associated with movements of the earth’s major plates. |
| **Lesson objective(s):**  To help understand the concept of differing magnetic directions as evidence of sea floor spreading over time |
| **ENGAGEMENT**   * Ask students how our landmasses got to be the way they are today. Some answers will include weathering, erosion, sediment deposits, etc. We are looking for any answers to do with tectonic plates and sea floor spreading. * Ask students to visualize what they think the ocean floor looks like. After they give their ideas, show them a map of the ocean floor. * Ask students if they notice any patterns. Also, what technologies might be used to map the sea floor? |
| **EXPLORATION**   * Students will be paired in groups of 3 or 4. Each group will have 2 pieces of paper and a marker (or 2). Each group will move 2 desks to face each other and have the pages pressed together in between the desk tops. 2 students will pull a page and draw it back toward them on the desk top. The third student will color in the crevice where the pages come out from between the desktops. When told, the third students will stop coloring while the others continue to pull the pages. When cued, the student will continue to color. This should make “bands” on the paper which signify times of normal and reversed polarity. We then use a good example and put in on the board to walk them through a scenario of specific times and polarities. * If using a group of 4, have 2 students color, alternating when each is coloring instead of having a band of color and a band of nothing. |
| **EXPLANATION**   * Ask students to explain what the bands of color might be on their page, Also, what are the papers and how might they look different under the ocean rather than on the desktop? |
| **ELABORATION**   * Vocab: tectonic plates, rift zone, sea floor, Pangea, polarity * Students will also be asked to name any similar processes and how things might be different if the processes are done in different conditions. |
| **EVALUATION**   * Evaluation will be based on the product of the polarity project. Also, each group will have to write a paragraph describing the process in their own words which will be graded. |